

GSAS v3.8.1 Release Notes

GSAS Team
February 25, 2004

Introduction

GSAS 3.8.1 contains fixes and minor modifications for L1A, Atmosphere, Waveform, and Elevation processes and products.

For L1A, the following changes were made:

- Fixed a problem where `i_g_IntRet` on GLA02 was always negative.

For Waveforms, the following changes were made:

- Fixed problems uncovered by a change in waveform compression parameters.

For Elevation processes, the following changes were made:

- Replaced `TrshRngOff` with `SigBegOff` on GLA14.

For Atmosphere, the following changes were made:

- Enhanced PBL Height and Elevated Aerosol Layer Detection routines.

Other, more general fixes include:

- The ANC13 geoid file was updated to the EGM96 geoid referenced to the TOPEX/Poseidon ellipsoid.

Product Format/Definition Change Summary

GLA14:

`TrshRngOff` was replaced by `SigBegOff`

The latest product formats/descriptions will be available at
http://glas.wff.nasa.gov/v38_products/.

Known Problems

GLA16 still not supported.

Additional parameters need to be added to QAP03.

LRS subject change algorithm needs to be implemented.

SIRU sample time correction algorithm needs to be implemented.

More atmosphere changes are pending.

QAP05 lists all waveforms as always valid – this is a mistake, probably in the total number of waveforms

Lots of other QA tweaks needed.

Release Information

The ClearCase label for this release is RELEASE_3.8.1.

The release date is February 25, 2004.

Version numbers have been updated to "V3.8.1 February 2004" for the following:

- atm_lib
- l1a_lib
- GLAS_L1A
- GLAS_Alt
- GLAS_Atm
- anc07_02
- anc07_04
- anc45_01-15

This should be verified during operation by checking the version information in the appropriate ANC06 files.

SMDS Impact

The distribution tarfile is on glasdev.wff.nasa.gov at the following location:

```
/glasdev1/v3/dist/gsas_v3.8.1.tar.Z.
```

ANC Files

New versions of all the ANC07_02, ANC07_04, and all ANC45 data files are required.

Compilation

All libraries and binaries should be recompiled using the top-level Makefile.

IMPORTANT: due to internal changes in the makefiles, SDMS MUST use the command "make runtime" to ensure the software is made without debug flags.

The process for making the libraries and binaries is as follows (**NOTE: SDMS ONLY!!**)

```
cd /install_dir/gsas_v3.8.1
make runtime
make install
```

Note : developers should not use the above procedure. This procedure is for SDMS only!

Detailed Change Notes

0001328: Update ANC45 Release Numbers to 16

Updated ANC45 VersionID to 16.

0001261: QABrowse problems

Fixed problem with case of the file extension on HDF output files. Fixed various problems seen in GSAS 3.8b2 ACCTEST products.

0001326 : Atm dies with IEEE underflow in onepass_accumulate_simple

Initialized the QA structure used in A_QA_G8_11.

0001325: Add description of anc13 (Geoid) to database

Updated the description of ANC13 in the product database.

0001318: Trouble reading GLA04 in standalone F90 product readers

Corrected an error in the GLA04 standalone product reader.

0001311: Replace i_TrshRngOff with i_SigBegOff, on GLA14

The TrshRngOff variable in GLA14 was replaced by SigBegOff, the signal beginning offset as calculated using the alternate (land) parameters. Product database was updated accordingly.

0001307: R Type Compression is Not Handled Correctly in WFs

Corrected waveform problem in processing data with R type compression.

Changed nSig1 from 7.5 to 4.5

0001301: Compressed Waveforms Are Not Handled Correctly In WFMgr

Fixed error in fitting waveforms that have two different compression ratios.

0001122: QAP02 updates required to BROWSE software

Browse software was updated to work with changed QAP02 parameters.

Changed ANC07 Parameters:

ANC07_02

changed GD_CRAT_THR20 from 1.10d1 to 1.0d1

ANC07_04

changed D_NSIG1 from 7.5d0 to 4.5d0

Changed Files:

./data/anc07_001_01_0002.dat
./data/anc07_001_01_0004.dat
./data/anc45_001_01_0001.dat
./data/anc45_001_01_0002.dat
./data/anc45_001_01_0003.dat
./data/anc45_001_01_0004.dat
./data/anc45_001_01_0005.dat
./data/anc45_001_01_0006.dat
./data/anc45_001_01_0007.dat
./data/anc45_001_01_0008.dat
./data/anc45_001_01_0009.dat
./data/anc45_001_01_0010.dat
./data/anc45_001_01_0011.dat
./data/anc45_001_01_0012.dat
./data/anc45_001_01_0013.dat
./data/anc45_001_01_0014.dat
./data/anc45_001_01_0015.dat
./Makefile
./src/atm_lib/vers_atm_mod.f90
./src/atmosphere/layers/A_20s_1064_det_mod.f90
./src/atmosphere/layers/A_20s_aer_det_mod.f90
./src/atmosphere/layers/A_4s_1064_det_mod.f90
./src/atmosphere/layers/A_4s_aer_det_mod.f90
./src/atmosphere/layers/A_pbl_det_mod.f90
./src/atmosphere/QA/A_qa_stats_mod.f90
./src/common_libs/prod_lib/GLA03_print_mod.f90
./src/common_libs/prod_lib/GLA05_print_mod.f90
./src/common_libs/prod_lib/GLA06_Pass_mod.f90
./src/common_libs/prod_lib/GLA07_print_mod.f90
./src/common_libs/prod_lib/GLA08_print_mod.f90
./src/common_libs/prod_lib/GLA09_print_mod.f90

./src/common_libs/prod_lib/GLA10_print_mod.f90
./src/common_libs/prod_lib/GLA11_print_mod.f90
./src/common_libs/prod_lib/GLA14_alg_mod.f90
./src/common_libs/prod_lib/GLA14_print_mod.f90
./src/common_libs/prod_lib/GLA14_prod_mod.f90
./src/common_libs/prod_lib/GLA14_scal_mod.f90
./src/glas_alt/ElevMgr_mod.f90
./src/glas_alt/WFMgr_mod.f90
./src/glas_atm/GLAS_Atm.f90
./src/glas_l1a/GLAS_L1A.f90
./src/l1a_lib/L_Atm_mod.f90
./src/l1a_lib/vers_l1a_mod.f90
./src/waveforms/W_Assess/W_Assess_mod.f90
./src/waveforms/W_FunctionalFt/W_FunctionalFt_mod.f90